ABSTRACT

[0115] A method for purifying an immunosuppressant protein (HISP) has the steps of obtaining supernatant from hNT cells; exposing the supernatant to preparative polyacrylamide gel electrophoresis to produce 20 isoelectric fractions, including active isoelectric fraction #10; placing the active isoelectric fraction on a Blue Sepharose column to bind albumin; and collecting the free fraction containing the concentrated, isolated HISP. Also disclosed is a method of treating inflammation, using an effective amount of an HISP. The HISP is anionic, has a molecular weight of 40-100 kDa, an isoelectric point of about 4.8 and is obtained from the supernatant of hNT cells, but not from NCCIT embryonal carcinoma cells, T98G glioblastoma cells or THP-1monocytic leukemia cells. HISP can maintain T cells in a quiescent G_0/G_1 state without lowering their viability. HISP loses activity when treated with heat, pH2, pH11, or mixed with trypsin or carboxypeptidase, but not with neuraminidase. HISP can suppress proliferation of responder peripheral blood mononuclear cells in allogeneic mixed lymphocyte cultures; HISP can suppress T-cell proliferation and IL-2 production in response to phorbol 12-myristate 13-acetate (PMA), ionomycin and concanavalin-A. HISP does not bind to heparin-sepharose CL-B gel; or to albumin-binding resin Blue Sepharose. HISP is concentrated with YM10 ultrafiltration. HISP does not act through the T-cell receptor-CD3 complex or via altered accessory signal cells. A method of treating inflammation comprises administering an effective amount of hNT neuronal cells.

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